

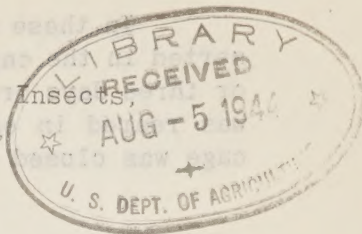
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LIFE-HISTORY CAGES FOR LEAF ROLLERS

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The cages described and figured herein were successfully used in working out the life history of Platynota stultana Wlsm. and of Argyrotaenia ivana Fern. It is believed that they will work equally well for other Microlepidoptera of similar habits.

The cage shown in figure 1 is a conventional type made of 16-mesh wire screen and was used in obtaining adult longevity and oviposition records. A pair of moths, or, in tests for parthenogenesis, an unmated female, was confined in each cage. The size used was 6 inches tall by $2\frac{1}{2}$ inches in diameter; the size may, of course, be varied to suit individual needs. The top of the cage was closed with a piece of cheesecloth held in place by a rubber band.

A small sponge or a wad of absorbent cotton, kept moist with a sugar-water solution, was placed in each cage to furnish food for the moths. The cotton is preferable since it dries out less quickly.

An ordinary microscope slide, as suggested by Peterson 1/, was used in obtaining oviposition records. The egg deposition of the moths studied seems to be governed by a tactile response, since the eggs were always placed on the smooth glass slide and never on the rough screen of the cage. Hence complete and accurate records of oviposition were possible.

A fresh slide was placed in the cage daily or as needed. A wax pencil was used to mark the slides bearing eggs with the date of oviposition and cage number of the adults. The eggs were counted and embryological development was observed under a wide-field binocular.

The cage shown in figure 2 was used in obtaining data on the larval and pupal stadia. It consists of a glass tube 5 inches high by $1\frac{1}{2}$ inch in diameter. This size fits in an ordinary test-tube rack, and a number of cages are readily handled in this way.

A half inch or so of water was placed in the vial and an absorbent cotton plug put in over it. An inch or so of moist sand may be used instead of the water and cotton plug, provided it is not allowed to dry out.

1/ Peterson, Alvah. A Biological Study of Trichogramma Minutum Riley as an Egg Parasite of the Oriental Fruit Moth. U. S. Dept. Agr. Tech. Bull. 215, 21 pp., 1930.

In these studies a leaf of a rose taken from the new growth was inserted in the cage as food for the larva. The leaf remained fresh for two or three days or longer. New leaves were added as needed. A single larva was reared in each cage, being placed therein when newly hatched. The cage was closed by means of a cheesecloth-covered cotton stopper.

Explanation of Illustrations

Figure 1.--Cage used for obtaining longevity and oviposition records.

Figure 2.--Cage used in obtaining data on larval and pupal development.

Cages are handled in numbers by placing them in test-tube racks.

A small sponge or a wad of absorbent cotton, kept moist with a sugar-water solution, was placed in each cage to furnish food for the larvae. The cotton is protected since it dries out less quickly.

An ordinary microscope slide, as suggested by Peterson (1), was used in obtaining oviposition records. The egg deposition of the mites studied seems to be governed by a tactile response, since the eggs were always placed on the smooth glass slide and never on the rough surface of the cage. Hence complete and accurate records of oviposition were possible.

A fresh slide was placed in the cage daily or as needed. A pencil was used to mark the slides bearing eggs with the date of oviposition and cage number of the mite. The eggs were counted and measured. Larval development was observed under a wide-field microscope.

The cage shown in Figure 2 was used in obtaining data on the larval and pupal stages. It consists of a glass tube 3 inches high by 1/2 inch in diameter. This size fits in an ordinary test-tube rack and a number of cages are readily handled in this way.

A half inch or so of water was placed in the 4/8 inch stopper. A cotton plug put in over it. An inch or so of water was put in over the plug of the water and cotton plug, provided it is not allowed to dry out.

